State Interoperability Executive Committee

Progress Report:
Recommended action items.

Governance

1.1 To develop an inclusive communications program built upon State Interoperability Executive Committee (SIEC) recommendations to meet the interoperable communications needs in Missouri.

1.1.1 Define the roles and responsibilities of the Missouri SIEC (4/1/07)

Recommendations: The SIEC should be the responsible body for interoperable radio communications coordination for the state of Missouri both within Missouri and with surrounding states and federal agencies. The SIEC should be the multi-agency planning body for emergency radio communications creating the over-arching strategy. The SIEC should be the body to define user eligibility.

The SIEC is a body of public safety and critical infrastructure communications professionals from multiple agencies, multiple disciplines, and multiple demographics. With three votes from urban areas, three votes from rural areas, three votes from state agencies, and one vote from critical infrastructure, there is broad-based representation in the communications field. These characteristics make the SIEC uniquely qualified to make plans, set strategy, and define standards for radio communications in Missouri.

1.1.2 Identify a program oversight body (7/1/07)

Recommendation: The SIEC should provide strategic oversight for a statewide communications program.

Because the SIEC has already formalized by Governor Blunt to develop strategic plans for interoperable communications, they are the logical choice to continue that strategic planning and provide oversight for communications initiatives in Missouri. This role will make the SIEC an active part in dispute resolution, standards development, and coordination of initiatives.

1.1.3 Identify a program management and administration body (7/1/07)

Recommendation: Missouri should have a full-time interoperable communications program manager. This person should serve as the day-to-day primary point of contact for operational and technical issues involving interoperable communications in Missouri with *strategic* oversight by the SIEC. They should also serve as the program manager for development of a statewide interoperable communications system with *system* oversight by a body of system radio user agencies. The program manager may have in-house staff and/or contracted vendors for system administration duties and should be within the Department of Public Safety.

We have seen in list serve exchanges and SIEC discussions that this is likely the most controversial piece of the GOVERNANCE puzzle. Some points gleaned so far:
- State Government or Private in structure

- Full-time
- Under SIEC oversight
- Able to coordinate with the 911 and data program groups
- Able to receive and/or use funding from utilities and other agencies
- Not controlled by any one discipline
- Public safety oriented
- Radio experience

*There is no body fitting all of these descriptors in existence today. We do not believe an entirely private program management and administration body is practical. Certainly there will be commercial support for such a large undertaking but for the state to not have day-in, day-out administration would be asking for trouble. It is also inconsistent with what other states have successfully accomplished. Major Bloomberg suggested a REJIS example, which is a **non-profit** corporation that still has governmental status. That would allow for the collection of funds from other entities. In any form the body should be **self-sustaining** from the funds collected from the state and from other system users.*

Some speculations on admin body or "contracting agency"

***Highway Patrol** - discipline specific. There has been positive talk about the Communications Division in control but negative talk about the Patrol in control. The initiative may lose some local support, especially if we still act primarily for the Patrol.*
***If** Patrol:*
- Administration must be unified in one division (Q's)
- Increase in the level of competency - - training, education, experience
- Increase in the number of people
- Changes in the patrol org structure
- Funding separated from Patrol support functions

***DPS** - actually a good fit for non-discipline specific and mission but not over MODOT or MDC. No LMR experience outside Capitol Police, SEMA, Water Patrol and Highway Patrol. No structure in place. A "department" structure would have to be created from the existing communications personnel throughout the various agencies to collectively administer the program. Should be satisfactory with most local agencies unless they have a personal beef with DPS.*

***Private/Outside Entity** - (REJIS Model) A not-for-profit corporation or other private organization has the benefit of being unattached to any discipline in public safety but has the disadvantage of possibly having no attachment to public safety at all. The use of a private radio administrator would be a radical change of mindset and business as well as a completely unknown commodity. I t would be in-line with the no-growth in state government policy. It is unknown as yet how agencies will regard the concept.*

OA - not controlled by any public safety discipline and has limited influence with MODOT and MDC. OA has no LMR experience to speak of which increases the chances

of an expensive failure. As with DPS, a structure would have to be created with existing communications personnel from other agencies. Further, I believe that the OA option increases the likelihood that operations will be separated permanently from technical. OA's preference and the Patrol administration's preference would likely be to put technical and administration under OA and leave operations under the province of each troop commander. That would not be an optimal voice product situation. Would probably be acceptable to other agencies.

1.1.5 Formalize and organize the business conducted by the SIEC (4/1/07)

Recommendation: SIEC meetings shall be regularly scheduled approximately quarterly in February, May, August, and November. Special meetings may be called if needed. Meetings shall routinely be hosted in the Jefferson City area. Individual meetings may be scheduled in alternate locations by committee vote.

Recommendation: Formal meeting minutes or recordings shall be kept and accepted by committee vote. Meetings shall be conducted by agenda in the following form:

> Call to order
> Introductions and Opening comments
> Acceptance of Minutes
> Subcommittee Reports
> Program Report (if applicable)
> Regional Liaison report and comment
> Unfinished Business
> New Business

Recommendation: The ten primary SIEC seats shall vote in motions before the committee. In the absence of a primary, their secondary may vote in their place. Substitute or proxy votes will not be allowed. A quorum is required to vote on a measure. A simple majority of six or more seats is required for a quorum. A simple majority of votes of the quorum is required to pass a measure before the committee. In the event of a tied vote the measure fails. Measures shall be brought to a vote by motion, second motion, discussion, and vote.

The recommended measures shown above have been discussed and developed not to restrict the SIEC in any way but to provide an organized, consistent, and fair process of handling issues discussed by the committee. It is recognized that dispute resolution and communications plans should also be developed for the SIEC

1.1.6 Establish and document the state's commitment to an inclusive communications program (7/1/07)

Recommendation: Legislation should be drafted to formally create and fund a statewide communications program within the Department of Public Safety to build, maintain, and

administer an interconnected, interoperable radio system for the benefit of all public safety radio users in the State of Missouri.

We are looking for a " charter" and funding. This will likely require legislative action to solidify for the long term. While the strategic plan has been accepted, we have nothing official to verify it. We think it is time to acquaint the legislature with the need for the program.

1.1.7 Establish and document Missouri's plan and priorities for interoperable communications (4/1/07)

Recommendation: The "Missouri Public Safety and Critical Infrastructure Communications Strategic Plan" should be published and maintained by the SIEC as Missouri's roadmap for the future of radio communications interoperability. Regional Homeland Security Oversight Committee's should have access to the Strategic Plan to create action plans at the regional level that are compatible with the Missouri Strategic Plan.

The "Missouri Public Safety and Critical Infrastructure Communications Strategic Plan" should be regarded as a living document that will grow and change as its precepts develop. The plan should be reviewed annually and updated as needed to adapt to the changes in the radio environment the document is designed to bring about. Changes should be made be made by SIEC vote. New releases should be published periodically. Regions should be informed of any changes, how they impact them, and how the regions fit into the strategic plan.

1.1.10 Identify potential funding streams to fund system construction (4/1/07)

Recommendation: Missouri should pursue federal grant funding generated from the auction of radio spectrum to commercial vendors to acquire, maintain, and administer an interconnected, interoperable radio system for the benefit of all public safety radio users in the State of Missouri.

Recommendation: Missouri should appropriate state funds to acquire, maintain, and administer an interconnected, interoperable radio system for the benefit of all public safety radio users in the State of Missouri.

Recommendation: Missouri should institute, in addition to annual maintenance funds, a state-funded public safety grant program for the purpose of enabling local public safety agencies to acquire radio equipment to operate on an interconnected, interoperable radio system for the benefit of all public safety radio users in the State of Missouri.

There has been a good deal of discussion about incentives for local agencies to buy radios and operate on the new system. It has been suggested that the state, in establishing funding for the radio system, should include funding for a grant program for local agencies to purchase radios.

1.2 To have local and regional participation with the SIEC in radio communications development in Missouri.

1.2.1 Define the roles and responsibilities of the Regional Planning groups in communications interoperability and their relationship with the SIEC (4/1/07)

Recommendation: Regional Homeland Security Oversight Committee designate representative liaisons to the SIEC to communicate questions, concerns, and input to the SIEC and communicate SIEC activities and initiatives to the RHSOCs.

The SIEC and the RHSOCs should do their best to stay informed on communications issues throughout the state and report communications problems or solutions. The SIEC and the RHSOCs are cooperative bodies within themselves. By cooperating with each other, interoperability issues can be overcome more quickly.

1.2.2 Accept representatives from the eleven regional planning groups to be liaisons to the SIEC (1/1/07)

Recommendation: Regional representative liaisons to the SIEC shall be integrated into the SIEC list serve and provided access to the strategic planning documents. Regional liaisons will be given time in every meeting to voice concerns and comments.

On the list serve, liaisons will receive notifications of SIEC meetings and events, receive information of SIEC business, and take part in debates on communications issues. As a part of the SIEC, liaisons will be included in the SIEC roster posted on the SIEC web page. SIEC members should support them in the RHSOCs with attendance and materials.

1.2.8 Provide education and outreach to raise awareness of the program and standards (7/1/07)

Recommendation: The Governance Subcommittee should create a Power-Point Presentation template for distribution and use at meetings and conferences explaining the work of the SIEC and the strategic plan developed.

Recommendation: SIEC members and regional liaisons should make the presentation to a meeting of each Regional Homeland Security Oversight Committee with SIEC state facilitators on hand to assist with questions.

Recommendation: Information about the SIEC meetings, web page, and list serve should be distributed in related publications and newsletters such as the EMD Bulletin.

SIEC should be prepared to make presentations at regional meetings with SIEC members from those regions and their liaisons to kick this off. Chiefs and field engineers should

attend if at all possible. This would be a good opportunity to promote I/O channels SOP's etc.

1.2.9 Create a clearinghouse to see that information is distributed adequately (Website, list-serve) (4/1/07)

<mark>**Recommendation:** SIEC documents shall be published on the SIEC web page and distributed via the list serve. Other related websites, such as the DPS/Homeland Security, SEMA, and the MOAPCO websites should provide links to the SIEC web page.</mark>

A web page has been created on the Highway Patrol website for SIEC information and published documents. Documents of interest, such as the strategic plan, can now be placed on the page for general reference. The web page is available to the public. List serve mosiec@mail.mo.gov has been established for SIEC use in distributing meeting minutes, notices, information, and debating issues online.

SOP's

2.2 **To develop and maintain coordinated and consistent NIMS compliant SOPs in local, regional, and state agencies.**

> **2.2.2** **Develop state NIMS compliant SOP templates for distribution (1/1/07).**
> **2.2.3** **Document interoperable communications procedures for both discipline specific and non-discipline specific communications (7/1/07).**

<mark>**Recommendation: The following draft sections of the SOP's and subsequently developed SOP's should be posted on the SIEC web page for public reference as the entire volume is being compiled.**</mark>

*<u>Mutual Aid</u> - There are VHF channels set aside for Fire, Law, and EMS mutual aid. These channels are discipline-specific and should remain discipline-specific in their usage. Strike teams are by definition made up of personnel all of the same discipline. Strike teams should use channels specific to their discipline to communicate **within the team**. To communicate outside the team, the calling channel or a designated tactical channel should be used.*

<u>Calling Channels</u> - VCALL shall be the day-to-day designated I/O calling channel for unit-to-unit contact and the initial on-scene coordination channel. During incidents utilizing communications resources beyond the day-to-day, VCALL shall also serve as the on-scene administrative channel for coordination and broadcast by the incident command post. Strike teams, task forces, or other groups should be assigned a tactical channel by the incident command post for internal communications as needed. MTAC shall be used as a day-to-day, car-to-base / base-to-car calling channel and as a command post-to-base / base-to-command post channel for incident use.

***Exception**: When wideband-only radios incapable of accessing VCALL are involved, MTAC can be used in its place. In the short term, MTAC may still be used as the initial calling channel when arriving at an incident. Great efforts should be made to replace all wideband-only radios with narrowband radios.*

In cross-banding equipment, calling channels should routinely be patched together in day-to-day operation but answered individually in an incident command post operation. Throughout the operation at least one member of every team should monitor the calling channels. That team member shall be responsible for communications for the team.

<u>Interoperability Channels</u> - VTAC1, VTAC2, VTAC3, VTAC4, VHF interoperability channels are non-discipline specific and should be used when cross- discipline communications is needed. Task forces are made up of personnel from multiple disciplines. If needed, task forces should be assigned a tactical channel by the Incident Commander or the Communications Unit Leader.

__I/O channels in other bands__ - UHF and 700/800 interoperability channels can be patched with VHF interoperability channels listed in the table below when cross-band operation is needed.   Such patching can be accomplished through proprietary radio systems or through cross-band gateway equipment.

VHF	UHF	700/800
VCALL	UCALL	ICALL
VTAC1	UTAC1	ITAC1
VTAC2	UTAC2	ITAC2
VTAC3	UTAC3	ITAC3
VTAC4		ITAC4

__Asset deployments__ - Deployable communications assets must be flexible enough to be tailored to the individual incident yet standard enough in operation to make response as automatic as possible.

Cross-band gateways *should be preprogrammed to a default configuration such as the table shown above to shorten the setup time and reduce the confusion of setting up new patches. Multiple configurations may be pre-defined. Due to the risk of interference with other communications operations, gateways should only be activated with the authorization of the communications unit leader acting on behalf of the incident commander.*

Long term (weeks-months) fixed command posts *(type 1) should be set up in permanent facilities with adequate space for operations and meetings or within local command facilities to supplement their communications capabilities. Manned 24/7 for the duration of the deployment. MTAC, Local Channel, Point to Point (16-24 hour up-time)*

Mobile, shorter-term (days-weeks) command posts *(type 1 or 2) should be placed as far forward as is safe while still maintaining communications and supply contact with rear posts. Manned 24/7 for the duration of its deployment. VCALL? (8-16 hour up-time)*

Temporary/transient (hours to days) communications posts *(type 3) may be needed to enter more inaccessible areas and may be minimally equipped for mobility but should still have voice communications with the rear. Manned during assigned operational duty hours. Assigned TAC channel (2-8 hour up-time)*

On-Air Procedures

We have acknowledged that SOP's will be NIMS compliant and all on-air communications will be "clear voice" or common language without codes or abbreviations. There are still some needs that should be addressed to help keep traffic from becoming confusing. Common radio techniques should be used keep communications clear and uniform.

Post Naming *should* <u>*not*</u> *be jurisdictionally or discipline based such as Fire Command, State Command, or Sheriff Command as this is inconsistent with the unified command structure of NIMS. Post naming should be based simply on general location, NIMS function or both. In a simple incident there may be only one post and the name may likely be simply "command post". In a larger disaster with multiple deployments there may be several command posts and other posts in a given area. By using the general location and NIMS function names can be made consistent and clear. Examples: "Jefferson Street Command", "8th street base", "Oak Park camp", "North face heli-spot", "Sedalia Heli-base", "Hwy 8 staging area"," east gate checkpoint"*

Teams *should be identified by function and may include the location. Examples: "transportation team", "fire team three", "south search and rescue"*

Individual user *naming should be by tactical call or by agency and unit identifier. Examples: "logistics officer", "Cole County Sheriff 10"*

Logging - *All radio traffic to and from a command post should be documented (station log) as it occurs by whatever means is available to the communications staff. Each log entry should contain time/date, field unit identifier, operator making the entry, content of the traffic. Telephone traffic, as well as any overheard two-way traffic considered to be of importance, should be logged. Personnel management is critical. Knowing where on-duty personnel are and what their status is should be maintained in the log. Logs should be collected and retained for reference. In addition to the traffic documentation, recording radio and telephone traffic with instant playback is recommended if available.*

Staffing Standards

Communications Unit Leader *should be any time multiple communications personnel, radio equipment beyond mobile and portable radios is deployed, or at anytime requested by the Incident Commander. The Communications Unit Leader will be responsible for channel assignments, equipment deployments, communication personnel assignments in compliance with NIMS supervisory ratios, and radio and telephone staffing coverage.*

Data Transfer Standards

The SOP subcommittee intends to set basic standards to simplify and streamline procedures for data transfer. Some examples of categories to address are: applications and office software, E-mail, video standards, satellite standards, digital picture formats, mapping standards

Training

The subcommittee recognizes that training on developed SOPs will be critical to successful communications. With this in mind, the subcommittee will review training and field-use materials to aid in the training and usage of the procedures developed.

Example: FOG, Workbooks / notebooks, Quick reference guide, SOP templates, ICS forms, training video

Technical

3.1 To meet the technical needs of interoperable communications users.

3.1.1 Develop mechanisms to connect disparate radio users on a common system (4/1/09)

Recommendation: The State of Missouri should implement a trunked 700/800 MHz system covering as much of the geographic area of the state as practical with a VHF access layer to accommodate VHF users. If sufficient VHF channels can be found, a VHF trunked layer should be implemented to cover the state and fill in the gaps of 700/800 MHz coverage with a "roaming" layer. **(Acquiring sufficient VHF spectrum will require unprecedented system participation of current local VHF users.)

  Since most users in Missouri operate in the VHF or 700/800 MHz band, a common system should provide access in those bands. The configuration of the system may require certain areas have coverage in only one or the other of the bands. Access can be accomplished with the use of dual band radios operating in both of those bands or cross-band gateways. Gateways can be used to accommodate UHF users.

3.1.2 Make on-scene, tactical communications available at all times (4/1/08)

Recommendation: RHSOC's should be given the authority and responsibility to coordinate the consistent programming of I/O channels in emergency responder radios as well as the pre-positioning and deployment of gateway solutions to provide for adequate response and deployment times statewide.

I/O channels are available for on-scene use. Gateways are an appropriate method of cross-band communications on-scene. Referred to SOP committee for SOP's regarding deployment decision-making policy and the use of on-scene I/O channels and gateways.

3.1.3 Make scene to base, operational communications available at all times (4/1/08)

Recommendation: Begin a program of SIEC sponsored MTAC base stations to provide basic VHF interoperability while building out a 700/800MHz radio system. MTAC stations shall interconnect with the radio system and become system nodes for interoperability in each county.

While on-scene unit/ unit communication has been supported, unit/base I/O capabilities have not yet been developed. A system build out in 700/800MHz will provide a high degree of unit/base capability in the 700/800MHz band. Using MTAC for "SIEC coordinated PSAPs" in each county to monitor and support MTAC users in the simplex

mode regardless of discipline will provide a minimal VHF layer of unit/base capability. Troops should also have this capability as a regional asset. To coordinate and manage the use of this STATE POLICE channel, we propose the Patrol license all 125 base stations and establish MOU's with the host PSAPs for its use.

Some specifics:
- RHSoC/SIEC agreed upon PSAPs (about one per county)
- NIMS compliance/ certified?
- Conventional simplex operation
- 24/7/365 monitor
- NB P25 base station
- HS$ for Base station replacement
- NB in 2011
- P25 in 2015

3.1.4 Define what wireless and wire-line protocols will be accommodated in the system (10/1/07)

Recommendation: All wire-line communications should be IP based if possible. Wireless communications will be supported in conventional and trunked modes. P25 shall be the standard for digital radio transmissions. Analog shall be supported until 2015 and wideband shall be supported until 2011.

3.1.5 Configure the system for ease of operation for the field user (7/1/08)

Recommendation: Configure the system for conventional operation access from the user through a dispatch center for manual patching or message relay. Trunked operation grants users automatic access directly into the system for talk group communications.

3.2 To establish and implement the standards, policies, and specifications of the standards-based shared system

3.2.2 Offer users access in both VHF high band and 700/800 MHz to accommodate diverse user needs (7/1/10)

Recommendations:
- Recognize / Identify Independence, St Louis City, Greene County, Springfield, Joplin, Buchanan County, Jefferson City, and Cape Girardeau as key nodes on the system.
- Connect the Independence and St Louis switches together
- Pilot a 700/VHF environment
- Provide incentives for local participation
        - Cooperative procurement

Network architecture must support both existing and anticipated coverage of 700/800 MHz in Missouri and also provide limited network support for VHF high band coverage throughout Missouri in the conventional mode. (If sufficient VHF spectrum can be acquired for statewide trunked operation, a higher level of network support can be provided.) Agencies should be encouraged to willing to contribute their local VHF channels into regional channel pools to bring additional capacity to their communities. This approach will allow them to migrate to higher capacity technologies.

3.2.8 Establish and implement the standards, policies, and specifications for the use of intermediate interoperability solutions (4/1/08)

3.2.8.1 Document channel sharing

Refer to MOU for I/O channels specs

3.2.8.2 Develop Specifications for deployable solutions

Recommendations:
- Mobile Communications resources for regional deployment should include:
- Gateways should be included in any Command Post communications package along with voice and data back haul capabilities.
 - Command Post radios should be installed and programmed to receive and transmit (dispatch) conventionally on VHF, UHF, and 700/800 bands on the I/O, fire, law, and EMS mutual aid channels. (one radio in each band)
- Command posts should be:
      - power generation
      - Equipped with voice and data capabilities via satellite
      - Equipped for video or still image transmission
      - E-mail capable
      - Equipped with GPS/ navigation
      - Wireless networking ready - 802.11G 2.4 Gig
      - Stocked with a portable radio cache on I/O frequencies. (band and number determined by host)
      - Defined under NIMS typing and casting criteria based on the above equipment capabilities.

It is necessary to establish protocol and develop capabilities throughout Missouri public safety community for identifying mobile command posts in Missouri, establishing their role, usage and how they can provide multi-band emergency communications service in a response environment.

    3.2.8.3 Develop Specifications for gateway solutions

Recommendations:
- Fixed gateway solutions should be configured to resolve problems specific to the area covered and channels used should also be specific to agencies served.
- Deployable gateways should be positioned strategically to facilitate the needs of users within its coverage area.
- Deployable gateways should be setup for all discipline specific mutual aid and multidiscipline I/O channels. (All gateway radios should have I/O channels preprogrammed.)
- Deployable gateways should be capable of at least 2 simultaneous VHF/800/UHF patches (2 VHF radio, 2 UHF radios, 2 800 MHz radios)
- Gateway use should be subject to regional coordination within the user community and documented in the CAPRAD assets database.